

Att'y Dkt. No. 003-130

U.S. App. No:10/829,376

**REMARKS**

Favorable reconsideration, reexamination, and allowance of the present patent application are respectfully requested in view of the foregoing amendments and the following remarks.

**Withdrawal of Claims**

Applicant acknowledges the withdrawal of Claims 4-7, 9-19, 23-26, and 28-40 from consideration at this time, pursuant to the Restriction / Election requirement in the Office Action dated 11 February 2005.

**Objection to the Drawings**

At pages 1 and 2 of the Office Action, the drawings were objected to because they allegedly include insufficient contrast. Applicant respectfully requests reconsideration of this objection.

Applicant first notes that no objection was made to the drawings by the PTO upon filing, *i.e.*, the drawings were already adjudged as being sufficient for publication purposes. Nevertheless, Applicant proposes, as indicated on the attached marked-up sheets, to revise the drawings to remove the half-tones throughout the drawings to increase the contrast between the several elements, and to add dashed lines. Applicants respectfully request approval of these proposed drawing changes.

**Rejection under 35 U.S.C. § 102**

In the Office Action, beginning at page 2, Claims 1, 3, 8, 20, 22, and 27 were rejected under 35 U.S.C. § 102, as reciting subject matters that allegedly are anticipated by U.S. Patent No. 3,969,892, issued to Stettler. Applicant respectfully requests reconsideration of this rejection.

This patent application describes gas turbines and methods of operating gas turbines. As discussed in the specification, the skilled artisan is well aware that achieving a non-visible flame requires a fine balance of operating conditions. As discussed in the introduction of the specification, previous studies have indicated that achieving a

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non-visible flame with re-circulation rates ranges from 100% to 200% would not be possible. Furthermore, as discussed at paragraphs [0085]-[0086], a re-circulation rate from 100% to 200% in a gas turbine adapted to operate in a highly diluted mode with a non-visible flame is associated with a number of beneficial advantages.

Claim 1 relates to a gas turbine having a combination of elements including, *inter alia*, flue gas re-circulation means for re-circulating the flue gas from the combustion chamber and mixing the flue gas with the compressed oxidant from the compressor to provide a highly diluted mode of combustion with a non-visible flame with a flue gas re-circulation rate of from 100% to 200%.

Claim 20 relates to a method of operating a gas turbine having a combination of steps including, *inter alia*, using a flue gas re-circulation means to re-circulate the flue gas from the combustion chamber and mix the flue gas with the compressed oxidant from the compressor in order to provide a highly diluted mode of combustion with a non-visible flame with a flue gas re-circulation rate of from 100% to 200%.

The prior art, including *Stettler*, fails to identically disclose, describe, or fairly suggest combinations of elements or steps as recited in the combinations of the pending claims.

In addition to the comments concerning *Stettler* that Applicant provided in their Election filed 25 April 2005, Applicant has the following comments. *Stettler* describes a combustion system in which inert combustion products from the downstream end of the combustion chamber are re-circulated to the combustion zone, thereby reducing oxidant concentration. *Stettler* discloses, *e.g.*, at column 1, lines 40 to 54, that the re-circulated flue gas is cooled and the object of the flue gas re-circulation is to reduce this temperature in the combustion zone of the combustion chamber:

Simple recirculation, however, is not effective to reduce temperature and therefore our invention also involves cooling the recirculated combustion products so as to reduce quite significantly the temperature in the combustion zone. The recirculated combustion products are cooled by heat exchange with dilution air, which is air added to the combustion products before their delivery to the turbine or other point of use. Thus, the heat energy is not lost and the operating efficiency is not adversely affected, but the temperature of the recirculated air and thereby the temperature in the combustion zone is very markedly reduced. In a regenerative engine operating at high temperatures, this reduction may be as much as 800° F.

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*Stettler* simply does not disclose or suggest a gas turbine adapted to operate in a highly diluted mode with a non-visible flame, or a method of operating a gas turbine in such a manner. In order to achieve a non-visible flame (as discussed in the description of the present application) specific operating conditions are required. *Stettler* merely discloses the use of re-circulated flue gas for the purposes of cooling, and does not describe or suggest adapting the gas turbine to operate in a highly diluted mode with a non-visible flame.

For at least the foregoing reasons, Applicant respectfully submits that the subject matters of Claims 1, 3, 8, 20, 22, and 27 are not anticipated by *Stettler*, are therefore not unpatentable under 35 U.S.C. § 102, and therefore respectfully requests withdrawal of the rejection thereof under 35 U.S.C. § 102.

#### **Rejection under 35 U.S.C. § 103(a)**

In the Office Action, beginning at page 3, Claims 2, 21, 41, and 42 were rejected under 35 U.S.C. § 103(a), as reciting subject matters that allegedly are obvious, and therefore allegedly unpatentable, over *Stettler*. Applicant respectfully requests reconsideration of this rejection.

Each of Claims 2, 21, 41, and 42 depend ultimately from Claim 1 or Claim 20, and are therefore allowable for at least the same reasons.

For at least the foregoing reasons, Applicant respectfully submits that the subject matters of Claims 2, 21, 41, and 42, each taken as a whole, would not have been obvious to one of ordinary skill in the art at the time of Applicant's invention, are therefore not unpatentable under 35 U.S.C. § 103(a), and therefore respectfully requests withdrawal of the rejection thereof under 35 U.S.C. § 103(a).

#### **Conclusion**

Applicant respectfully submits that the present patent application is in condition for allowance. An early indication of the allowability of this patent application is therefore respectfully solicited.

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If Mr. Gartenberg believes that a telephone conference with the undersigned would expedite passage of the present patent application to issue, he is invited to call on the number below.

It is not believed that extensions of time are required, beyond those that may otherwise be provided for in accompanying documents. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and the undersigned hereby authorizes any fees for said petition be charged to our deposit account 50-2821.

Respectfully submitted,

By: 

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Date: 2 November 2005

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